The Management of Septage Under the Federal Part 503 Regulation

Part 503 regulation called "Standards for the Use or Disposal of Sewage Sludge" which includes "domestic septage". These standards are designed to protect public health and the environment from reasonably anticipated adverse effects of pollutants in sewage sludge (and domestic septage).

> "Domestic septage is defined in the Part 503 regulation as the liquid or solid material removed from a septic tank, cesspool, portable toilet, type III marine sanitation device, or a similar system that receives only domestic septage (household, non-commercial, non-industrial sewage)."

The following guidance is taken from "Domestic Septage Regulatory Guidance" EPA 832-B-92-005; September 1993. This guidance to the Part 503 Regulation calls land application sites that are not frequently visited or used by the public, non-public contact sites. These non-public contact sites include agricultural land, forests, and reclamation sites.

Domestic septage can be managed in the following various ways: Discharged into a treatment works, placed in a landfill, incinerated, or land applied. Remember that the rules of the operator and applicable State and Federal rules must be followed.

Land application is the spreading of domestic septage on land at controlled rates to fertilize crops and improve the tilth of soils. This domestic septage can either be sprayed or spread on the soil surface, or plowed, disked, or injected into the soil. The EPA has a policy that encourages the beneficial use of sewage sludge, including domestic septage.

The following requirements must be met to qualify for land application of domestic septage.

1. To meet the Federal requirements for application of domestic septage to non-public contact sites, the land applier must assure that he/she has **ONLY** domestic septage.

2. Unless domestic septage is applied only to sites that are not frequently visited by the public, called non-public contact sites in the above reference document, its use or disposal is regulated under 40 CFR Part 503 as sewage sludge.

3. The land applier must manage the domestic septage so that pathogens (disease-causing organisms) are reduced.

4. The land applier must manage the domestic septage so that its attractiveness to vectors is reduced. Vectors are insects and rodents that can carry pathogens in or on their bodies and therefore transmit disease.

5. The owner of the land where domestic septage has been applied must adhere to crop harvesting, animal grazing, and site access restrictions.

6. The land applier must certify that pathogen and vector attraction reduction requirements have been met, including crop harvesting, animal grazing, and site access restrictions.

7. The number of gallons of domestic septage applied per acre of land may not be more than needed to supply the nitrogen required by the crop being grown.

8. The person who applies domestic septage to land must also follow the applicable rules of the State involved.

Concepts of what makes up domestic septage. Sanitation waste residues and residues from food and normal dish cleaning from a restaurant are considered domestic septage. Grease trap wastes, shop pit wastes, carwash pit wastes and dry cleaning waste residues **ARE NOT** classified as domestic septage. It is important to emphasize again that any mixture of domestic and non-domestic septage, for example in a pumper truck or holding tank, causes the entire batch of septage to be considered non-domestic septage and **not covered** by the Part 503 Regulation.

You must keep records for five (5) years after any application of domestic septage to a site, but you are not required to report this information. These records may be requested for review at any time by the permitting or enforcement authority. The record keeping requirements are:

1. The location of the site where domestic septage is applied, either the street address, or the longitude and latitude of the site (available from the U.S. Geological Survey maps).

2. The number of acres to which domestic septage is applied at each site.

3. The date and time of each domestic septage application.

4. The nitrogen requirement for the crop or vegetation grown on each site during the year. Also, while not required, indicating the expected crop yield would help establish the nitrogen requirement.

5. The gallons of septage which are applied to the site during the specified 365-day period.

6. Approved Certification Statement.

7. A description of how the pathogen requirements are met for each batch of domestic septage that is land applied.

8. A description of how the vector attraction reduction requirement is met for each batch of domestic septage that is land applied.

Pathogen and vector attraction control alternatives are in the following figures:

Figure 3: PATHOGEN REDUCTION ALTERNATIVE 1[1] for Domestic Septage (Without Additional Treatment) Applied to Non-Public Contact Sites

Domestic septage is pumped from the septic tank or holding tank and land applied without treatment, and

Crop Restrictions:

i) Food crops with harvested parts that touch the septage/soil mixture and are totally above ground shall not be harvested for 14 months after application of domestic septage.

ii) Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of domestic septage.

iii) Animal feed, fiber, and those food crops that do not touch the soil surface shall not be harvested for 30 days after application of the domestic septage.

iv) Turf grown on land where domestic septage is applied shall not be harvested for one year after application of the domestic septage when the harvested turf is placed on either a lawn or land with a high potential for public exposure, unless otherwise specified by the permitting authority.

Grazing Restrictions:

i) Animals shall not be allowed to graze on the land for 30 days after application of domestic septage.

Site Restrictions:

i) Public access to land with a low potential for public exposure shall be restricted for 30 days after application of domestic septage. Examples of restricted access include remoteness of site, posting with no tresspassing signs, and/or simple fencing.

[1] You must meet either of the two pathogen reduction alternatives discussed in Figure 3 or 4 (not both).

Figure 4: PATHOGEN REDUCTION ALTERNATIVE 2[1] for Domestic Septage (With pH Treatment) Applied to Non-Public Contact Sites

The domestic septage pumped from the septic tank or holding tank has had its pH raised to 12 or higher by the addition of material such as hydrated lime or quicklime and, without adding more alkaline material, the domestic septage remains at a pH of 12 or higher for at least 30 minutes prior to being land applied, and

Crop Restrictions:

i) Food crops with harvested parts that touch the septage/soil mixture and are totally above ground shall not be harvested for 14 months after application of domestic septage.

ii) Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of domestic septage when the domestic septage remains on the land surface for four months or longer prior to incorporation into the soil.

iii) Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of domestic septage when the domestic septage remains on the land surface for less than four months prior to incorporation into the soil.

iv) Animal feed, fiber, and those food crops whose harvested parts do not touch the soil surface shall not be harvested for 30 days after application of the domestic septage.

v) Turf grown on land where domestic septage is applied shall not be harvested for one year after application of the domestic septage when the harvested turf is placed on either a lawn or land with a high potential for public exposure, unless otherwise specified by the permitting authority.

Grazing Restrictions: None

Site Restrictions: None

[1] You must meet either of the two pathogen reduction alternatives in Figure 3 or 4 (not both). Note, if you meet this pH 12 pathogen reduction alternative, you also meet vector attraction reduction alternative number 3 listed in Figure 5.

Figure 5: VECTOR ATTRACTION REDUCTION ALTERNATIVES[1] for Domestic Septage applied to Non-Public Contact Land

VECTOR ATTRACTION REDUCTION ALTERNATIVE 1: Injection

Domestic septage shall be injected below the surface of the land, AND no significant amount of the domestic septage shall be present on the land surface within one hour after the domestic septage is injected;

OR

VECTOR ATTRACTION REDUCTION ALTERNATIVE 2: Incorporation

Domestic septage applied to the land surface shall be incorporated into the soil surface plow layer within six (6) hours after application;

OR

VECTOR ATTRACTION REDUCTION ALTERNATIVE 3: pH Adjustment

The pH of domestic septage shall be raised to 12 or higher by addition of alkaline material and, without the addition of more alkaline material, shall remain at 12 or higher for 30 minutes.

[1] You must meet vector attraction reduction alternatives 1, 2 or 3 - only one.

CASE EXAMPLES The following are case examples of septage management options:

Applying domestic septage to flooded, frozen or snow-covered land does not prohibit this type of application. However, it does state that this type of waste being applied to these lands may not enter wetlands or other waters of the United States, unless specifically authorized by a permit issued under Sections 402 or 404 of the Clean Water Act.

Prior to applying domestic septage to flooded, frozen, or snow-covered lands, the land applier should ensure that proper runoff control measures are in place to prevent septage from entering waters of the United States. Some common runoff controls include slope restrictions, buffer zones/filter strips, tillage to create a roughened soil surface, crop residue or vegetation requirements, berms, dikes, silt fences, diversions, sediment basins and terraces.

Reference Documents

Domestic Septage Regulatory Guidance; EPA 832-B-92-005; September 1993

Land Application of Sewage Sludge; EPA/831-B93-002b; December 1994